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CABBAGE CULTIVAR EVALUATION TRIALS

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The cabbage cultivar evaluation trials were conducted at the OARDC Green Springs Crops Research Unit near Green Springs. The soil is a sandy loam. The plots received 640 lb/A of 10-20-20 fertilizer, 1 lb/A boron and 3 lb/A of Diazinon pre-plant incorporated. In addition, 6-24-12 at 150 lb/A was banded in the rows at planting. Treflan at .75 lb/A was pre-plant incorporated for weed control.

The plantings were direct seeded on April 11 using a Planet-Jr. seeder. Rows were 30 ft. long on 30-in. centers. The rows were hand-thinned to give a 12-in. spacing for the fresh market cultivars and 18-in. for the processing cultivars. Each cultivar was replicated four times.

Cultural care throughout the season was according to recommended procedures. No serious insect, disease or weed problems developed during the season. Monthly rainfall totals were:

April - 3.77 in.
May - 2.09 in.
June - 5.44 in.
July - 3.34 in.
Aug. - 4.46 in.

When the fresh market cultivars reached marketable maturity, the authors evaluated each cultivar for external color, uniformity of head size and maturity, plant size, head shape, plant uprightness, and wrapper-leaf cover. In addition, the numbers of bursted and rotted heads were recorded. The mature heads were then harvested, counted and weighed. Three heads of each cultivar from each replicate were cut and the core length and polar and equatorial diameters recorded. One additional harvest was made for each cultivar when the majority of the remaining heads had reach marketable maturity.

Data from the fresh market trials are presented in Tables 1 and 2.

Cultivars in the processing trial were harvested when the heads became very firm and fully exposed above the lower leaves of the plants and the outer wrapper leaves developed a yellowish cast to the normal green or blue-green color. Field evaluations were made on external color, uniformity of head size and maturity, plant size, head shape and plant uprightness. The number of bursted heads and heads infected with rotting organisms were recorded. All the usable heads were harvested, counted and weighed. Data were recorded from a three-head sample from each replicate on internal color, mid-rib thickness, tip-burn, core length, and polar and equatorial diameter.

Results from the processing trials are presented in Table 3 except for tip-burn, head firmness and internal color ratings. Heads from all cultivars were rated very firm, the internal color was rated yellowish-white and no tip-burn was present in the samples cut.

The authors wish to extend sincere appreciation to the seed companies who supplied seed for these trials. Included were: Ferry-Morse Seed Co., Mountain View, Calif.; Joseph Harris Co., Inc., Rochester, New York; Northrup, King & Co., Minneapolis, Minn.; Niagara Div. FMC Corp., El Macero, Calif.; R. L. Holmes Seed Co., Canton, Ohio; Leatherman's Seed Co., Canton, Ohio.

TABLE 1.--Yield and Quality Characteristics of Cabbage Cultivars for Fresh Market--1977

		First Harvest				Total Harvest		Measurements (in)		
Cultivar	Source	Days No.	Tons/ Acre	Lbs/ Head	% Harv.	Tons/ Acre	Lbs/ Head	Core Length	Polar Dia.	Equatorial Dia.
Satellite	Niagara	200	16.7	3.98	44.5	19.3	3.37	3.84	6.06	6.62
Cole Cash	Niagara	206	18.8	3.26	57.3	19.7	3.20	3.34	6.12	6.59
NCX 9026	Niagara	194	19.3	3.88	51.3	20.8	3.51	3.00	6.00	6.44
NCX 9024	Niagara	192	9.7	3.44	36.1	14.7	2.73	3.06	6.00	6.62
NCX 9019	Niagara	188	15.2	4.02	41.2	21.5	2.92	4.28	6.90	6.78
Golden Acre	Holmes	188	15.4	3.56	44.2	20.1	3.00	3.47	6.31	6.47
Green Jewel	Holmes	194	17.2	3.87	46.3	22.3	3.33	2.44	6.97	6.81
Starmaster F	Holmes	188	13.9	3.78	41.3	19.9	3.24	3.16	6.72	6.50
Guardian	Harris	200	14.1	3.29	44.5	17.2	2.74	2.69	6.06	5.65
Defender	Harris	200	17.7	3.35	52.5	22.3	2.79	2.81	6.44	6.31
Market Prize	Harris	200	22.9	3.73	56.6	25.2	3.49	3.53	6.06	6.47
BRR-51017	Harris	195	15.5	3.62	45.0	19.7	3.09	2.66	6.47	6.25
BRR-51015	Harris	223	16.1	3.55	48.4	16.1	3.55	2.48	5.94	6.22
DRI-6426	Harris	224	29.3	4.77	58.3	29.3	4.77	3.33	7.12	7.25
Tastie	Leatherman	194	20.9	4.13	49.2	25.5	3.60	2.91	7.06	6.69
Green Boy	NK	202	23.7	3.99	56.5	25.6	3.79	2.91	6.56	6.65
Wizard	NK	194	16.0	3.82	44.2	21.7	3.18	3.34	6.87	6.15
Jet Pak	NK	188	16.1	3.73	46.1	20.9	3.17	3.25	6.69	6.62
	LSD .05 =	1.20	5.7	NS	10.26	5.4	.660	.378	.478	.622

NOTE - Day No. refers to the day of the year for the first harvest.

TABLE 2.--Quality Characteristic Ratings of Fresh Market Cabbage Cultivars--1977*

Cultivar	External Color	Uniform-ity	Plant Size	Head Shape	Upright-ness	Leaf Bloom	Leaf Cover	Burst %	Rot %
Satellite	1.0	2.5	3.0	2.0	1.7	3.0	1.2	0	0.7
Cole Cash	2.0	2.7	3.0	2.0	2.5	3.0	1.0	0	0.7
NCX 9026	1.7	2.5	2.2	2.0	2.2	3.0	1.7	0	14.8
NCX 9024	2.0	2.7	2.7	2.5	2.0	3.0	2.0	0	10.3
NCX 9019	1.2	2.7	2.0	2.0	2.5	3.0	2.7	14.7	8.8
Golden Acre	1.0	2.0	1.5	1.7	1.2	3.0	2.5	3.2	1.6
Green Jewel	1.5	2.7	2.0	1.7	1.5	3.0	2.0	0	4.1
Starmaster	1.0	2.5	1.5	2.0	2.0	3.0	2.5	3.3	5.0
Guardian	1.0	3.0	1.2	2.0	2.7	3.0	2.7	0	12.1
Defender	1.0	2.0	1.0	2.0	2.2	3.0	3.0	0	12.6
Market Prize	1.7	2.0	2.5	2.0	2.0	3.0	1.7	0	2.3
BRR-51017	1.0	2.7	2.0	2.0	2.2	3.0	2.2	0	13.5
BRR-51015	1.0	2.2	1.5	2.0	2.7	3.0	2.7	0	0
DRI-6426	2.5	2.0	2.5	2.0	1.7	3.0	1.5	0	0
Tastie	1.0	2.2	1.5	1.7	1.7	3.0	2.2	0	10.5
Green Boy	2.0	2.5	3.0	2.0	2.2	3.0	1.7	0	4.0
Wizard	1.7	2.5	1.7	2.0	2.2	3.0	2.0	0	6.7
Jet Pak	1.0	2.5	2.0	2.0	2.5	3.0	2.5	2.4	5.8
LSD .05 =	.52	NS	.60	NS	.72	NS	.73	3.1	6.1

* Color: 1-green, 2-blue green, 3-blue, 4-red
Uniformity: 1-good, 2-fair, 3-poor
Plant Size: 1-small, 2-medium, 3-large
Head Shape: 1-pointed, 2-round, 3-flat
Uprightness: 1-upright, 2-slightly tipped, 3-very tipped
Leaf bloom: 1-slight, 2-moderate, 3-heavy
Leaf cover: 1-good, 2-fair, 3-poor

TABLE 3.--Yield and Quality Characteristics of Cabbage Cultivars for Processing -- 1977

Cultivar & Source	Tons/ Acre	Lbs/ Head	Rotting	External Color*	Plant Uniformity*	Plant Size*	Head Shape*
King Cole (FM)	41.9	8.03	Slight	2.0	1.0	3.0	2.0
Roundup (FM)	38.2	6.92	Slight	2.0	1.0	3.0	2.0
Titan 90 (FM)	35.9	6.51	Slight	3.0	2.0	3.0	2.0
Hybrid N (Harris)	42.4	7.78	Slight	2.0	1.0	3.0	2.0
BRR 51317 (Harris)	18.1	4.52	Severe	**	**	3.0	2.0
BRR 513LA (Harris)	23.1	5.70	Severe	1.0	2.0	3.0	2.0
Sanibel (Holmes)	38.1	6.73	Slight	2.0	2.0	3.0	2.0
NCX 9025 (Niagara)	33.6	7.12	Slight	2.0	1.0	3.0	2.0
LSD .05 =	18.7	3.10		---	---	---	---

Cultivar	Plant Uprightness*	Mid-Rib*	Core Length (in)	Polar Dia. (in)	Equatorial Dia. (in)
King Cole	3.0	2.1	4.01	7.91	7.73
Roundup	1.0	2.0	4.16	7.58	7.48
Titan 90	2.0	2.1	3.01	7.66	7.81
Hybrid N	3.0	2.0	3.48	7.97	7.83
BRR 51317	**	1.5	3.19	6.09	6.33
BRR 513LA	3.0	1.9	3.36	6.81	6.97
Sanibel	3.0	2.3	3.05	7.78	7.66
NCX 9025	3.0	2.0	3.72	7.76	7.80
LSD .05 =	---	NS	0.56	0.66	0.68

* External Color: 1-green, 2-blue green, 3-blue
Plant Uniformity: 1-good, 2-fair, 3-poor
Plant Size: 1-small, 2-medium, 3-large
Head Shape: 1-pointed, 2-round, 3-flat
Plant Uprightness: 1-upright, 2-slightly tipped, 3-very tipped
Mid-rib: 1-thin, 2-medium, 3-thick

** Plant color observations suggest segregation because several plants were green and others were blue-green; Majority of the heads were infected with soil rotting organisms, considerable burst present and the stems were very weak.

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